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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Focke

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EXAMINER

BARKER, MATTHEW M

ART UNIT

PAPER NUMBER

3662

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,727	Applicant(s) FOCKE ET AL.	
	Examiner MATTHEW M. BARKER	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-23 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/22/2008 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 12- 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Barman et al. (2002/0167726).

Regarding claims 12-18, Barman discloses calibrating at least two sensors (50, 60), each of a different sensor type, including an image sensor and radar sensor (paragraph 0043), wherein calibration data is determined in a single operation and the

calibration uses each of the sensors to detect at least one part of a common calibration object. The sensors are aligned such that the calibration object is in a detection range of each sensor, and calibration data for the sensors is determined from data regarding the calibration object; reference data from one of the sensors and data regarding the calibration object from the other sensor is used to form the calibration data for the sensors (see paragraphs 0019-0022) and the data is stored and processed (paragraph 0125).

Regarding claims 19-21, Barman discloses first and second reference features adapted to be detected by the two sensors, wherein the first and second reference features are included in a single calibration object (see paragraphs 0072, 100).

4. Claims 12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Stiller (DE 19962997). The cited paragraphs in this Office action refer to US 2002/0072869, an English equivalent of the German publication.

Stiller discloses a method and apparatus for calibrating sensors in a motor vehicle (see Figure 1), including a radar sensor (3) and an imaging sensor (2) (see paragraph 0020), wherein the sensors are calibrated by an analyzing unit (7) using a common calibration target which includes at least two reference features (6) (see paragraph 0021). Stiller determines the calibration data in a single operation (Figure 3) (35). The sensors are aligned such that the calibration object is in a detection range of each sensor; the object is detected using each sensor, and calibration data for the sensors is determined from data regarding the calibration object (paragraphs 0021-

0022). Reference data from one of the sensors and data regarding the calibration object from the other sensor is used to form the calibration data for the sensors (paragraph 0012). The calibration data is stored and processed (paragraph 22).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 19 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schirmer et al. (6,363,619) in view of Stiller or Lutter et al. (6,771,208) or Sugimoto (6,061,015).

Schirmer discloses a vehicle sensor calibration system with a reference feature adapted to be detected by a sensor (10) including a triple mirror (209) (Fig 2A) with calibration marks (211, 212) for calibration of the sensor (Abstract). Schirmer does not explicitly disclose at least two sensors of a different sensor type. Stiller, Lutter, and Sugimoto all disclose vehicle sensor systems including at least two sensors of a different type (see Abstracts, Figures 1-2). It would have been obvious to modify the calibration system of Schirmer to calculate calibration data for sensor systems with multiple sensor types as shown by Stiller, Lutter, or Sugimoto in order to enhance the capabilities of the device, increasing the potential market and demand for the product.

Response to Arguments

7. Applicant's arguments filed 4/23/2007 have been fully considered but they are not persuasive.

On pages 6-7 of the Remarks, Applicant argues that Stiller does not disclose or suggest that a single object is detected by both sensors. This argument is not convincing because paragraph 0031 of Stiller states that points on the objects 6 are detected by the camera, and distance, angle, and the relative velocity of stationary objects 6 are measured by the radar sensor. There is no apparent indication that different objects are detected by different sensors. In fact the contrary is true, as Stiller uses the same reference number (6) to refer to the calibration object(s) detected by each sensor and furthermore, Stiller only shows one such object in Figure 1.

On page 8, Applicant argues that Stiller does not disclose a step of aligning two or more sensors where the alignment is performed to cause the single object to be in the detection ranges of the two or more sensors. The argument is not convincing because in order for each sensor to detect the same target as discussed above, the sensors must be aligned such that the object is in the detection range of each sensor.

On page 8, Applicant argues that Stiller does not disclose that different ones of the at least two sensors detect different parts of a common calibration object. The argument is convincing and the rejection of claim 24 has been withdrawn.

On pages 9-11, Applicant argues that it would not have been obvious to modify Stiller to use the triple mirror taught by Schirmer. The argument is convincing and the

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rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references.

Allowable Subject Matter

8. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art relates to sensor systems and/or calibration systems.

10. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew M. Barker whose telephone number is (571)272-3103. The examiner can normally be reached on M-F, 8:30 AM-5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MMB

/Thomas H. Tarcza/

Supervisory Patent Examiner, Art Unit 3662